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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,625	08/22/2003	Hiroshi Osawa	Q71638	8023

23373 7590 04/18/2005

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EXAMINER

EVANS, JEFFERSON A

ART UNIT	PAPER NUMBER
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2652

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/645,625

Applicant(s)

OSAWA, HIROSHI

Examiner

Jefferson A. Evans

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. ____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Claims 1 to 10 are pending.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 to 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Fukushima et al (U.S. 6,821,653) or Sakawaki et al (U.S. 6,761,982) or Sakawaki et al (U.S. 6,808,830). Fukushima discloses a magnetic recording medium comprising a glass substrate (1) having grooves on the surface thereof (column 5 – lines 19 to 30), an orientation-determining layer (2), a non-magnetic undercoat layer (3), a magnetic layer (4), and a protective film (5), the layers and film being successively formed on the substrate, wherein the orientation-determining layer may be formed from an alloy including, for example NiNb or NiTa (column 8 – lines 17 to 39) and have a thickness of 20 to 2000 Angstroms. The substrate may be amorphous glass (column 5 – lines 1 and 2). The grooves have a line density of 7,500 lines/mm or higher (column 5 – lines 19 to 22). The magnetic layer has a

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magnetic anisotropy index of 1.05 or more (column 10 – lines 11 to 18). The non-magnetic undercoat layer includes Cr or a Cr alloy (column 8 – lines 59 to 67). The magnetic layer contains an alloy such as CoCrTa or CoCrPtTa (column 9 – lines 13 to 37).

The disclosures of the two Sakawaki references parallel that of the Fukushima reference.

The applied references have a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the references, they constitute prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the references was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

3. Claims 1, 3/1, 8/1, 9/1, and 10/1 are rejected under 35 U.S.C. 102(b) as being anticipated by Ishikawa et al (U.S. 6,057,021). A magnetic recording medium comprising a glass substrate (17) having grooves on the surface thereof (column 5 – lines 19 to 30), an orientation-determining layer (52), a non-magnetic undercoat layer (53), a magnetic layer (54), and a protective film (55), the layers and film being successively formed on the substrate, wherein the orientation-determining layer may be formed from an alloy including, for example Ni-W-P (column 13 – lines 138 and 39) and have a thickness such as 130 Angstroms. The substrate may be glass (column 13 – lines 35 and 36). The non-magnetic undercoat layer includes Cr or a Cr alloy (column 13 – lines 42 to 44). The

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magnetic layer contains an alloy such as CoCrTa or CoCrPtB (column 13 – lines 45 to 50).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 3/2, 4/2, 8/2, 9/2, and 10/2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al (U.S. 6,057,021) in view of Tanahashi et al (U.S. 6,511,761).

As per Claims 2, 3/2, 8/2, 9/2, and 10/2

Ishikawa discloses an Ni-W based orientation determining layer but does not expressly disclose one of the materials set forth in claim 2.

Tanahashi discloses that a orientation determining layer (12) may be formed from an Ni-Ta based alloy (column 4 – lines 49 to 51).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a Ni-Ta based alloy as the orientation determining layer of Ishikawa. The motivation would have been: Tanahashi serves as evidence that it was recognized in the art that in a magnetic disk medium based on a glass substrate, \Ni-Ta was effective as a layer upon which to deposit the layers which together with the substate and the orientation determining layer form the medium.

As per Claim 4/2

Ishikawa does not expressly disclose the glass substrate as being formed from amorphous glass.

Official Notice is given that it was notoriously old and well known in the art to form a disk substrate from amorphous glass.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the glass substrate of Ishikawa from amorphous glass. The motivation would have been: amorphous glass had been established in the magnetic disk medium art as being one of the best choices for forming the substrate of a magnetic disk medium.

6. Claim 4/1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al. Ishikawa does not expressly disclose the glass substrate as being formed from amorphous glass.

Official Notice is given that it was notoriously old and well known in the art to form a disk substrate from amorphous glass.

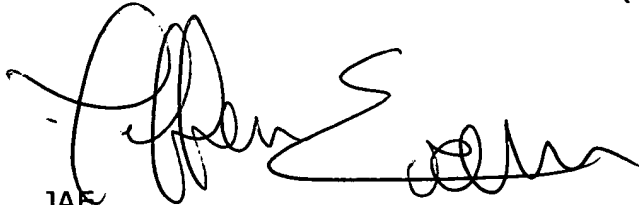
It would have been obvious to one of ordinary skill in the art at the time the invention was made to form the glass substrate of Ishikawa from amorphous glass. The motivation would have been: amorphous glass had been established in the magnetic disk medium art as being one of the best choices for forming the substrate of a magnetic disk medium.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jefferson A. Evans whose telephone number is 571-272-7574. The examiner can normally be reached on Monday to Friday, 9:00am to 5:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa Thi Nguyen can be reached on 571-272-7579. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Jefferson A. Evans', with a stylized flourish at the end.

JAE

March 18, 2005

Jefferson A. Evans
Primary Examiner
Art Unit 2652

**JEFFERSON EVANS
PRIMARY EXAMINER**